

ADDITIONAL NOTES ON THE *ERIOCAULACEAE*. XCVII

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*SYNGONANTHUS FLAVIPES* Mold.

Additional bibliography: Mold., *Phytologia* 55: 108. 1984.

Huber & Tillett describe this as growing to 30 cm. tall and found it "rather frequent" on savannas, as 120 m. altitude, in flower in December.

Additional citations: VENEZUELA: Amazonas: *O. Huber* 1625 (Ld), 2056 (Ld), 6084 (Ld); *Huber & Tillett* 2785 (Ld), 2943 (Ve); *Huber, Tillett, & Davidse* 3645 (Ld); *Maguire, Cowan, & Wurdack* 30465 (W--2046497--isotype); *Thomas & Rogers* 2607 (N); *Wurdack & Adderley* 42860 (W--2320878).

*SYNGONANTHUS FLEXUOSUS* Alv. Silv.

Additional bibliography: Mold., *Biol. Abstr.* 64: 6581. 1977; Mold., *Phytologia* 36: 61 & 62 (1977) and 38: 44. 1977; Mold., *Phytol. Mem.* 2: 154 & 623. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv. Fl. Mont. 1: 393--395, pl. 252. 1928 (Ld, N, W).

*SYNGONANTHUS FLOCCOSUS* Mold., *Phytologia* 45: 478, pl. 5. 1980.

Bibliography: Mold., *Phytologia* 45: 477--478, pl. 5. 1980; Mold., *Phytol. Mem.* 2: 165 & 623. 1980.

Illustrations: Mold., *Phytologia* 45: 477, pl. 5. 1980.

Citations: BRAZIL: Bahia: *Harley, Mayo, Storr, Santos, & Pinheiro in Harley* 19042 (Ld--type, N--isotype, W--2936306--isotype).

*SYNGONANTHUS FUSCESCENS* Ruhl.

Additional bibliography: Mold., *Biol. Abstr.* 64: 6581. 1977; Mold., *Phytologia* 37: 69. 1977; Mold., *Phytol. Mem.* 2: 165 & 623. 1980.

Additional citations: BRAZIL: Minas Gerais: *Hatschbach* 30214 (W--2706046).

*SYNGONANTHUS GARIMPENSIS* Alv. Silv.

Additional bibliography: Mold., *Biol. Abstr.* 64: 6581. 1977; Mold., *Phytologia* 36: 62. 1977; Mold., *Phytol. Mem.* 2: 165 & 623. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Mont. 1: 317--319, pl. 201 & 202. 1928 (Ld, N, W).

*SYNGONANTHUS GLABER* Alv. Silv.

Additional bibliography: Mold., *Biol. Abstr.* 64: 6581. 1977; Mold., *Phytologia* 36: 61 & 62 (1977) and 38: 44. 1977; Mold., *Phytol. Mem.* 2: 165 & 623. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Mont. 1: 388--390, pl. 248. 1928 (Ld, N, W).

*SYNGONANTHUS GLANDULIFER* Alv. Silv.

Additional bibliography: Mold., Biol. Abstr. 64: 6581. 1977; Mold., Phytologia 36: 62--63. 1977; Mold., Phytol. Mem. 2: 165 & 623. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Mont. 1: 321--322, pl. 204. 1928 (Ld, N, W).

*SYNGONANTHUS GLANDULOSUS* Gleason

Additional bibliography: Mold., Phytologia 42: 38 & 42 (1979) and 44: 384. 1979; Mold., Phytol. Mem. 2: 111, 119, 123, 125, 165, 179, 443, 444, & 623. 1980; Mold. in Harley & Mayo, Toward Checklist Fl. Bahia 77. 1980; Reis & Lipp, New Pl. Sources Drugs 22. 1982; Mold., Phytologia 54: 237 & 439 (1983) and 55: 65, 88, & 89. 1984.

Maguire & Wurdack report this plant "occasional" in morichal, at 300 m. altitude, the fruiting-heads described as white in May. The Maguire and Wurdack collection which is cited below was previously regarded by me as representing the related *S. caulescens* (Poir.) Ruhl. since some of the plants show stem elongations of 1--5 cm. and the sheaths are hirsutulous.

The Cowan & Soderstrom 2154, distributed as typical *S. glandulosus*, actually is its f. *epapillosus* (Mold.) Mold.

Additional citations: VENEZUELA: Bolívar: Maguire & Wurdack 36752 (N, W--2168958); J. A. Steyermark 58621 (W--1901778).

*SYNGONANTHUS GLANDULOSUS* f. *EPAPILLOSUS* (Mold.) Mold., Phytologia 44: 384. 1979.

Synonymy: *Syngonanthus glandulosus* var. *epapillosus* Mold., Phytologia 26: 177--178. 1973.

Bibliography: Mold., Phytologia 26: 177--178. 1973; Anon., Biol. Abstr. 56 (10): B.A.S.I.C. S.265. 1973; Mold., Biol. Abstr. 56: 5366. 1973; Hocking, Excerpt. Bot. A.23: 293. 1974; Mold., Phytologia 28: 437--440 (1974), 35: 359 (1977), 36: 36 & 65--66 (1977), and 37: 87, 88, & 270. 1977; Mold., Biol. Abstr. 64: 6581. 1977; Mold., Phytologia 42: 38 & 42 (1979) and 44: 384. 1979; Mold., Phytol. Mem. 2: 119, 123, 125, 165, 179, 443, & 623. 1980; Mold. in Harley & Mayo, Toward Checklist Fl. Bahia 77. 1980; Mold., Phytologia 54: 237 & 439. 1983.

Recent collectors describe this plant as a rosette herb to 20 cm. tall and have encountered it in a region of "waterworn horizontally bedded sandstone at soil surface, with damp sand, sedge marsh, exposed rock, and waterfalls, the vegetation consisting of open scrub to closed low woodland in the drier areas" and among "vegetación arbustiva y herbácea sobre una laja granítica detrás de un gran préstamo de arena", in morichal, at the edges of lakes, on wet sandstone banks along small streamlets, and in grassy-sedgy dried-up rills, at 60--1220 m. altitude, in both flower and fruit in November and from January to March. Cowan & Soderstrom refer to it as locally common in boggy patches on top of rocks in the constant mist from waterfalls; the Maguires describe it as a locally frequent annual in marshy places along streams, while

Prance and his associates found it growing in small groups in damp swampy ground.

Collectors refer to the leaves as dull-green and the heads as white. The sheaths apparently are not hirsute. The vernacular name, "poma-taca", has been reported for the plant. The Egler collection, cited below, is a mixture with *Paepalanthus leucocyaneus* f. *egleri* Mold. and *Utricularia* sp.

Material of *S. glandulosus* f. *epapillosus* has been misidentified and distributed in some herbaria as *S. caulescens* (Poir.) Ruhl. and *S. huberi* Ruhl. The exact status of these taxa needs further critical evaluation.

Additional citations: VENEZUELA: Amazonas: Huber & Cerda 1435 (Ve). Apure: Davidse & González 14600 (E--2712479). Bolívar: J. A. Steyermark 60494 (N, W--1987437), 98198 (Ld, W--2621689); Steyermark & Liesner 127315 (Ld). GUYANA: Cowan & Soderstrom 2154 (Fg, N, W--2678029). BRAZIL: Amapa: Egler 47650 in part (W--2435286). Bahia: Harley, Mayo, Steerr, Santos, & Pinheiro in Harley 19281 (Ld, N). Mato Grosso: Eiten & Eiten 9145 (W--2971859). Paraná: Mattos 4365 (N). Roraima: Maguire & Maguire 40100 (N, W--2169030); Prance, Forero, Pena, & Ramos 4488 (Ld, N, S, W--2576789).

*SYNGONANTHUS GLAUCUS* Alv. Silv.

Additional bibliography: Mold., Biol. Abstr. 64: 6581. 1977; Mold., Phytologia 36: 66--667. 1977; Mold., Phytol. Mem. 2: 165 & 623. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Mont. 1: 373-374, pl. 237. 1928 (Ld, N, W).

*SYNGONANTHUS GOYAZENSIS* (Körn.) Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.33: 89. 1979; Mold., Phytologia 42: 42. 1979; Mold., Phytol. Mem. 2: 165 & 623. 1980.

Recent collectors refer to this plant as an aquatic herb with white inflorescences and found it in fruit in August.

Additional citations: BRAZIL: Distrito Federal: Héninger, Paula, Mendonca, & Salles 610 (N). Goiás: G. Gardner 4384 (W--937204--isotype, W--1066874--isotype).

*SYNGONANTHUS GOYAZENSIS* var. *HATSCHBACHII* Mold.

Additional bibliography: Hocking, Excerpt. Bot. A.33: 89. 1979; Mold., Phytologia 42: 42. 1979; Mold., Phytol. Mem. 2: 165 & 623. 1980.

Additional citations: BRAZIL: Goiás: Hatschbach 40064 (N--isotype, W--2850770--isotype).

*SYNGONANTHUS GRACILIS* (Bong.) Ruhl.

Emended synonymy: *Syngonanthus gracilis* Körn. apud Ruhl. in Wettstein, Denkschr. K. Akad. Wiss. Wien Math.-Nat. 79: 87. 1908.

Additional & emended bibliography: Bong., Mem. Acad. Imp. Sci. St.-Petersb., ser. 6, 1: 634--635. 1831; Ruhl. in Wettstein,

Denkschr. K. Akad. Wiss. Wien Math.-Nat. 79: 87. 1908; Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 182. 1927; Hocking, Excerpt. Bot. A.23: 388 (1974) and A.31: 17. 1978; Mold., Phytologia 42: 42--44, 199, & 202. 1979; Mold., Phytol. Mem. 2: 111, 112, 119, 120, 123, 125, 126, 165, 166, 172, 180, 398, 424--427, 443, & 623. 1980; Mold. in Harley & Mayo, Toward Checklist Fl. Bahia 77. 1980; Hocking, Excerpt. Bot. A.36: 22. 1981; Mold., Phytologia 50: 248, 263, & 264 (1982), 54: 144, 235, & 237 (1983), and 55: 79, 84, & 85. 1984.

Recent collectors describe this plant as a small herb, growing in clumps, the leaves dark- or dull-green, and the inflorescence heads "pale", "creamy", "whitish", "white", or "pale white". They have found it growing along moist creek margins, on rocky outcrops along rivers, in sand with full exposure to the sun, in the transition area from swamp to savanna, in crevices in rock outcrops, on moist savannas, along rivulets on savannas, forming colonies in wet depressions on savannas, and "in moist sandy depressions among rocky exposures by cascades", at 130--1600 m. altitude, in both flower and fruit in May, October, and November, in fruit alone in April and December. Davidse and his associates encountered it in "open treeless areas on wet white-sand savannas dominated by *Lagenocarpus* and *Axonopus* species interspersed with tree and shrub islands".

Tillett describes what he calls the "bract at base of scape" [sheath?] dark-brown, the scape [peduncle] light-green, the "bracts of the inflorescence" [receptacular bracts] tan, and the flowers whitish. He reports the plant "frequent in small clumps in wet sand and gravel near river" in an area "covered with a 1 m. [tall] dense growth of grass, herbs, and some low shrubs".

Ruhland (1908) cites a Wackett and a Wettstein unnumbered collection from São Paulo.

The *Steyermark* & al. 123948, distributed as typical *S. gracilis*, seems better regarded as representing its var. *hirtellus* (Steud.) Ruhl., while Casas & Molero FC.3822 is *S. nitens* var. *koernickei* Ruhl. Murça Pires & Black 2464 is a mixture with *Cyperus* sp.

Additional citations: VENEZUELA: Amazonas: O. Huber 2231 (Ve); 3460 (Ld); Maas & Huber 5136 (N); Phelps & Hitchcock s.n. (N); Steyermark, Maas, Field, & Redmond 123631 (Ld), 123634 (Ld), 123635 (Ld), 123645 (Ld); Steyermark & Redmond 117070 (Ld). Bolívar: Moore, Ambrose, Dietz, & Pfister 9733b (Ba--385816); Steyermark, Berry, Dunsterville, & Dunsterville 117256 (Ac); Steyermark, Espinosa, Dunsterville, & Dunsterville 117812 (Ld); Steyermark & Maas 123729 (Lc); W. W. Thomas 2716 (N). GUYANA: Maas, Westra, & al. 3685 (Ld, N); Tillett & Tillett 45745(N). BRAZIL: Amazonas: Madison, Kennedy, Monteiro, & Braga 6224 (N); Prance 23528 (N). Maranhão: Murça Pires & Black 2464 in part (W--2221498). Minas Gerais: G. Gardner s.n. (W--1625291). Pará: Davidse, Rosa, Rosário, & Silva 17592 (N); Plowman, Rosa, & Rosário 9718 (Ld, N, W--2967827).

*SYNGONANTHUS GRACILIS* var. *AMAZONICUS* Ruhl.

Additional bibliography: Mold., *Phytologia* 42: 43. 1979; Mold., *Phytol. Mem.* 2: 165, 172, & 623. 1980; Mold. in Harley & Mayo, *Toward Checklist Fl. Bahia* 77. 1980.

Recent collectors have described this plant as a slender herb, to 10 cm. tall, the leaves light- or pale-green, the heads white, and the involucral bractlets stramineous or "golden-green". They have found it growing in a sandy flush along roadsides in a region of "sandstone rocks intersected by small streams and with some disturbed areas along roadsides" and on "rocky riverside with rapids, riverine vegetation, cerrado with sandstone outcrops and some grassland areas subject to flooding", at 700--980 m. altitude, in both flower and fruit in February and March.

Additional citations: BRAZIL: Bahia: *Harley, Mayo, Storr, Santos, & Pinheiro in Harley 18695* (K), 20105 (N). Pará: *Martinelli 7311* [R.B. Herb. 203516] (Ld, W--2992746).

*SYNGONANTHUS GRACILIS* var. *ARAXAENSIS* Alv. Silv.

Additional bibliography: Mold., *Biol. Abstr.* 64: 6581. 1977; Mold., *Phytologia* 36: 77. 1977; Mold., *Phytol. Mem.* 2: 165 & 623. 1980.

Citations: MOUNTED CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 347. 1928 (Ld, N, W).

*SYNGONANTHUS GRACILIS* var. *AUREUS* Ruhl.

Additional synonymy: *Syngonanthus gracilis* var. *aureus* Ruhl. ex Mold., *Phytologia* 50: 264 in syn. 1982.

Additional bibliography: Mold., *Phytologia* 42: 43. 1979; Mold., *Phytol. Mem.* 2: 119, 165, 172, & 623. 1980; Mold., *Phytologia* 50: 264 (1982), 54: 235 (1983), and 55: 85. 1984.

Recent collectors describe this plant as an herb, 20 cm. tall, with white inflorescence heads, and have found it growing in morichal and incipient morichal, "common" on white-sand savannas, and on "treeless savannas dominated by *Axonopus*, *Paspalum*, *Panicum*, and in spots by *Rapateaceae*, at 100--1300 m. altitude, in both flower and fruit in July, September, and December.

The Maguire & al. collection, cited below, was previously incorrectly reported as *S. biformis* (N. E. Br.) Gleason.

Additional citations: VENEZUELA: Bolívar: *Davidse, Ramia, & Montes 4826* (E--2993651). Guárico: *Delascio, Montes, & Davidse 11056* (E--2993687), 11614 (E--2994264). GUYANA: *Maguire, Maguire, & Wilson-Browne 46179a* (N). BRAZIL: Bahia: *Mattos Silva & Brito 971* (Ld). Goiás: *Murça Pires & Santos 16211* (N). Minas Gerais: *G. Gardner 5270* (Ld--photo of cotype, W--1067055--cotype).

*SYNGONANTHUS GRACILIS* var. *BOLIVIANUS* Ruhl.

Additional bibliography: Mold., *Biol. Abstr.* 64: 6581. 1977; Mold., *Phytologia* 36: 79--80 & 83. 1977; Mold., *Phytol. Mem.* 2: 175 & 623. 1980.

Beck describes this plant as growing to 8 cm. tall, and found it growing on wet savannas, in both flower and fruit in July.

Additional citations: BOLIVIA: El Beni: S. G. Beck 5497 (Ld). Santa Cruz: Kuntze 455 (Ld--photo of type).

*SYNGONANTHUS GRACILIS* var. *GLABRIUSCULUS* Ruhl.

Additional bibliography: Mold., Phytologia 42: 43--44 & 202. 1979; Mold., Phytol. Mem. 2: 119, 125, 126, 165, 443, & 623. 1980; Mold., Phytologia 54: 144. 1983.

Recent collectors describe the inflorescence heads of this plant as white, and have encountered it on savannas, in wet marshy savannas leading to morichal, and "among sandstone rocks and open scrub on rocky hillsides", at 70--1100 m. altitude, in both flower and fruit in February and November.

Material of this taxon has been misidentified and distributed in some herbaria as *Paepalanthus* sp.

Additional citations: VENEZUELA: Amazonas: Steyermark, Guariglia, Holmgren, Luteyn, & Mori 126134 (Ld); Thomas & Rogers 2678 (Ld). Apure: Davidse & González 14151 (Ld). Bolívar: Huber, Alarcon, & Davidse 6854 (Ld). FRENCH GUIANA: Granville 2611 (Cy); Hook 512 (Cy, Cy). BRAZIL: Bahia: Harley, Mayo, Storr, Santos, & Pinheiro in Harley 18761 in part (N).

*SYNGONANTHUS GRACILIS* var. *GRISEUS* Ruhl.

Additional bibliography: Mold., Biol. Abstr. 64: 6581. 1977; Mold., Phytologia 36: 82 & 83. 1977; Mold., Phytol. Mem. 2: 166 & 623. 1980.

*SYNGONANTHUS GRACILIS* var. *HIRTELLUS* (Steud.) Ruhl.

Additional bibliography: Mold., Phytologia 42: 44. 1979; Mold., Phytol. Mem. 2: 119, 166, 425, & 623. 1980; Mold. in Harley & Mayo, Toward Checklist Fl. Bahia 77. 1980; Mold., Phytologia 50: 248 (1982), 54: 235 (1983), and 55: 84. 1984.

Recent collectors describe this plant as a slender herb, to 20 cm. tall, with small basal rosettes of gray leaves, "pale" involucre bracts, and white or cream-colored flowering heads. They have encountered it on natural campos, "among sandstone rocks and open scrub on hillsides", in disturbed soil of sandy savannas, in periodically burned cerrado "entre o capim", in brejo and morichal, in brejo-like areas in cerrado, in moist open sandy places among rocks, and in "open scrub on white sand with damp areas and extensive sedge meadows partly burned over", at 62--1200 m. altitude, in both flower and fruit in January, February, April, July to September, and December. Huber and his associates refer to it as "frequent". Steyermark and his associates make the interesting statement regarding their no. 123948 that it grew "in dense clumps, all green", while their no. 123922 grew "in denser mats with gray centers". Raynal-Roques describes the plant as a "très petite rosette étalée sur le sol, issue d'une souche pérenne; feuilles à longs poils blancs; scapes filiformes portant des capitules blancs." Poole calls it a "common annual to 25 cm. tall, the heads grayish-white".

Additional citations: VENEZUELA: Amazonas: Cardenas & Pyykkö

1396 (Ve). Amazonas: *Steyermark, Maas, Field, & Redmond* 123620 (Ld). Bolívar: *Huber, Rodríguez, & Alarcon* 7342 (Vo); *Steyermark, Maguire, Brewer-Carías, Maguire, & Espinosa* 123922 (N), 123948 (N). Guárico: *Delascio, Montes, & Davidse* 11259 (Ld), 11498 (Ld, Ld), 11580 (Ld, Ld). FRENCH GUIANA: *Raynal-Roques* 19731 (Cy). BRAZIL: Amazonas: *Poole* 1793 (N). Bahia: *Harley, Mayo, Storr, Santos, & Pinheiro in Harley* 18761 in part (K), 18848 (N); *Mattos Silva, Carvalho, & Hage* 1029 (Ld); *Mori, Mattos Silva, & Santos* 10503 (N), 10613 (N), 10615 (N), 10616 (N); *Santos, Mori, & Mattos Silva* 3351(Ld). Distrito Federal: *Héringer, Figueiras, Mendonça, Pereira, Salles, & Silva* 4420 (E--2904852); *Héringer, Salles, & Mendonça* 17403 (N). Goiás: *Pereira* 466 (Ld). Mato Grosso: *Murça Pires & Santos* 16337 (N); *Prance & Schaller* 26246 (Ld, N). Pará: *Prance, Pennington, & Murça Pires* 1283 in part (W--2514723).

*SYNGONANTHUS GRACILIS* var. *KOERNICKEANUS* Ruhl.

Additional synonymy: *Paepalanthus gracilis* var. *koernickeanus* Ruhl. ex Mold., *Phytologia* 50: 263 in syn. 1982.

Additional bibliography: *Hocking, Excerpt. Bot. A.31: 17. 1978; Mold., Phytologia 42: 44. 1979; Mold., Phytol. Mem. 2: 111, 119, 123, 125, 126, 166, 424, 425, & 623. 1980; Mold., Phytologia 50: 263 (1982) and 55: 79. 1984.*

Recent collectors describe this as a very small, delicate plant, often forming dense cushions. They have found it growing on white-sand savannas, along creeks in low forests, abundant on white-sand campinas, and in "sandy openings in valley with *Mauritia* bordering *Pakaraimea* forest", at 450--1150 m. altitude, in both flower and fruit in June and December.

The variety appears to be very variable in height (length of peduncles) -- *Schultes & al. 18093* is a good example of the tall form, while *Steyermark 89686* well represents the dwarf form.

The *Steyermark & Nilsson 638* and *Steyermark & Pruski 121065* collections, distributed and previously cites as this variety, actually are *S. albopulvinatus* (Mold.) Mold.

Additional citations: COLOMBIA: *Vaupés: Schultes, Baker, & Cabrera 18093 (W--2198892)*. VENEZUELA: Bolívar: *J. A. Steyermark 89686 (W--2430066, W--2486395)*; *Steyermark, Espinosa, Dunsterville, & Dunsterville 117754 (Ld)*. GUYANA: *Maas, Mennega, Welle, & Groen 5832 (Ld)*; *Maas, Westra, & al. 4410 (Ld, N)*. BRAZIL: Amazonas: *Calderón, Monteiro, & Guedes 2578 (Ld)*.

*SYNGONANTHUS GRACILIS* var. *LATIFOLIUS* Mold.

Additional bibliography: *Hocking, Excerpt. Bot. A.23: 388. 1974; Mold., Phytologia 37: 72. 1977; Mold., Phytol. Mem. 2: 166 & 623. 1980.*

*SYNGONANTHUS GRACILIS* var. *LUETZELBURGII* Herzog

Additional bibliography: *Mold., Phytologia 37: 72. 1977; Mold., Phytol. Mem. 2: 166 & 623. 1980.*

Recent collectors have encountered this plant on campo rupestre

at 1600--1850 m. altitude, in both flower and fruit in July.

Additional citations: BRAZIL: Bahia: *Mori, King, Santos, & Hage 12480* (Ld, W--2854255).

*SYNGONANTHUS GRACILIS* var. *PALLIDUS* Ruhl.

Additional bibliography: Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 182. 1927; Mold., Phytologia 37: 72--73. 1977; Mold., Phytol. Mem. 2: 120, 166, & 623. 1980.

Knuth (1927) cites only the type collection, *Passarge & Selwyn 258*, from Bolívar, Venezuela.

*SYNGONANTHUS GRACILIS* f. *PROLIFER* Mold.

Additional bibliography: Mold., Phytologia 42: 44. 1979; Mold., Phytol. Mem. 2: 166 & 623. 1980.

*SYNGONANTHUS GRACILIS* var. *PULCHER* Alv. Silv.

Additional bibliography: Mold., Phytologia 37: 73--74. 1977; Mold., Phytol. Mem. 2: 166 & 623. 1980.

Citations: MOUNTED CLIPPINGS: Alv. Silv., Fl. Mont. 1: 347. 1928 (Ld, N, W).

*SYNGONANTHUS GRACILIS* var. *RECURVIFOLIUS* Ruhl.

Additional bibliography: Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 182. 1927; Mold., Phytologia 42: 44 & 199. 1979; Mold., Phytol. Mem. 2: 120, 166, & 623. 1980; Hocking, Excerpt. Bot. A.36: 22. 1981.

Knuth (1927) cites only the type collection, *Passarge & Selwyn 81*, from Bolívar, Venezuela.

Recent collectors describe this plant as having basal rosettes and growing solitary or in clumps on wet savannas with thin soil over white sand, at 1200 m. altitude, in flower and fruit in August.

Additional citations: VENEZUELA: Bolívar: *Moore, Ambrose, Dietz, & Pfister 9650* (Ba).

*SYNGONANTHUS GRACILIS* var. *SETACEUS* Ruhl.

Additional bibliography: Mold., Phytologia 37: 71 & 74--75. 1977; Mold., Phytol. Mem. 2: 112, 166, 425, & 623. 1980.

Recent collectors describe the inflorescences of this plant as white and found it growing at 400 m. altitude, in flower in August.

Additional citations: COLOMBIA: Guainía: *García-Barriga 20817* (W--2844178).

*SYNGONANTHUS GRACILIS* var. *SUBINFLATUS* Ruhl.

Additional bibliography: Mold., Phytologia 37: 71, 73, & 75--76. 1977; Mold., Phytol. Mem. 2: 166, 424, 425, & 623. 1980.

*SYNGONANTHUS GRACILIS* var. *TENUISSIMUS* Ruhl.

Additional bibliography: Mold., Phytologia 42: 199. 1979; Mold., Phytol. Mem. 2: 120, 166, & 623. 1980; Hocking, Excerpt. Bot. A.36: 22. 1981; Mold., Phytologia 54: 235 & 237. 1983.



Recent collectors have describes this plant as a heliophile with gray inflorescence heads and have encountered it on white-sand airstrips, on slopes dominated by bracken fern and ericaceous shrubs, in podzolic soil in depressions with organic debris, in white sand of scrubby forests, and "in dense colonies near woods", at 100--1700 m. altitude, in both flower and fruit in February, October, and December, and only in fruit in May.

Additional citations: VENEZUELA: Amazonas: *O. Huber 1548* (Ld); *Liesner 3857* (Ld), *3870* (Ld), *3873* (Ld), *3911* (Ld), *3912* (Ld); *J. A. Steyermark 129425* (Ld). Anzoátegui: *Davidse & González 19917* (Ld). BRAZIL: Minas Gerais: *Regnell III.1801* (Ld--photo of cotype, W--936266--cotype). Rio de Janeiro: *Araujo & Maciel 4608* [Herb. FEEMA. 20568] (N), *5179* [Herb. FEEMA. 23019] (N), *5238* [Herb. FEEMA. 22960] (N).

*SYNGONANTHUS GRAO-MOGOLENSIS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 77--78. 1977; Mold., *Phytol. Mem.* 2: 166, 443, & 623. 1980.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 342--343, pl. 216. 1928 (Ld, N, W).

*SYNGONANTHUS GRAO-MOGOLENSIS* var. *DETONSUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 77--78. 1977; Mold., *Phytol. Mem.* 2: 166, 443, & 623. 1980.

Additional citations: BRAZIL: Minas Gerais: *Irwin, Santos, Souza, & Fonsêca 23354* (W--2709903--isotype).

*SYNGONANTHUS GUIANENSIS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 78. 1977; Mold., *Phytol. Mem.* 2: 123 & 623. 1980.

Additional citations: GUYANA: *Maguire & Fanshawe 23236* (W--1907823--isotype).

*SYNGONANTHUS HABROPHYUS* Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 78--79, 423, & 489 (1977) and 38: 50. 1977; Mold., *Phytol. Mem.* 2: 166 & 623. 1980.

Recent collectors describe this plant as a heliophyte, with white flower-heads, and found it in fruit in April.

Additional citations: BRAZIL: Rio de Janeiro: *Araujo & Maciel 3026* [Herb. FEEMA. 14857] (Ld); *Glaziou 6449* (W--1124114--isotype).

*SYNGONANTHUS HARLEYI* Mold.

Additional bibliography: Mold., *Phytologia* 37: 79 (1977) and 42: 199. 1979; Mold., *Phytol. Mem.* 2: 166 & 623. 1980; Mold. in *Harley & Mayo, Toward Checklist Fl. Bahia* 77. 1980.

Mori and his associates found this plant growing in dry sand with full exposure to the sun, in fruit in May.

Additional citations: BRAZIL: Bahia: *Harley, Renvoize, Erskine, Brighton, & Pinheiro in Harley 16662* (W--2771327--isotype); *Mori, Boom, & Carvalho 14096* (Ld, N). MOUNTED ILLUS-

TRATIONS: Mold., *Phytologia* 31: 488--490. 1975 (Ld).

*SYNGONANTHUS HATSCHBACHII* Mold.

Additional bibliography: Hocking, *Excerpt. Bot. A.* 33: 87. 1979; Mold., *Phytologia* 42: 199. 1979; Mold., *Phytol. Mem.* 2: 166 & 623. 1980.

Additional citations: BRAZIL: Bahia: *Hatschbach 39668* (W--2850769--isotype); Mori, *Mattos Silva, & Santos 10471* (N).

*SYNGONANTHUS HELMINTHORRHIZUS* (Mart.) Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 79--82 & 89 (1977) and 38: 118 & 120. 1977; Mold., *Phytol. Mem.* 2: 166, 179, 428, 443, & 623. 1980; Mold., *Phytologia* 54: 144. 1983.

Recent collectors have found this plant growing in brejo.

Additional citations: BRAZIL: Distrito Federal: *Heringer, Filgueiras, Mendonça, & Pereira 4916* (W--2926763); *Pereira 224* (N, W--2941404). Goiás: *Macedo 3341* (W--2197100). Mato Grosso: *Hatschbach 32346* (W--2839286).

*SYNGONANTHUS HELMINTHORRHIZUS* var. *GLANDULOSUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 81 & 82. 1977; Mold., *Phytol. Mem.* 2: 166, 443, & 623. 1980; Mold., *Phytologia* 54: 144. 1983.

Heringer and his associates refer to this plant as having its leaves very numerous at the base of the plant and the inflorescence light-yellow. They found it in flower and fruit in April, distributing their material as *Paepalanthus* sp. In some herbaria it has been distributed as typical *S. helminthorrhizus* (Mart.) Ruhl.

Additional citations: BRAZIL: Distrito Federal: *Heringer, Figueiras, Mendonça, Pereira, Heringer Salles, & Chagas e Silva 4313* (E--2904851, N, W--2931336); *Prance & Silva 59041* (W--2514725).

*SYNGONANTHUS xHESSII* Mold.

Additional bibliography: Mold., *Phytologia* 37: 82--83. 1977; Mold., *Phytol. Mem.* 2: 234, 444, & 623. 1980.

Citations: MOUNTED ILLUSTRATIONS: Hess, *Bericht. Schweitz. Bot. Gesell.* 65: 198, fig. 5. 1955 (Ld--photo of cotype, N--photo of cotype).

*SYNGONANTHUS HETEROPEPLOIDES* Herzog

Additional bibliography: Mold., *Phytologia* 42: 200. 1979; Mold., *Phytol. Mem.* 2: 120, 166, & 623. 1980; Mold., *Phytologia* 54: 235. 1983.

Recent collectors describe this plant as sometimes submerged, sometimes "emersed from water", and sometimes terrestrial "en solo encharcado", 10--15 cm. tall, the leaves in rosettes, the inflorescence heads and flowers white. They have found it on campo with natural park vegetation, "locally frequent" or "common all over the savannas", at 100--900 m. altitude, in flower in April and in both flower and fruit in August and December.

The *Tillett 45486* & *45744* collections, distributed as *S. heterocephaloides*, actually are *S. xeranthemoides* var. *grahamiae* Mold., while *Steyermark 57848* is *Paepalanthus saxicola* var. *conicus* Mold.

Additional citations: VENEZUELA: Amazonas: *O. Huber 2431* (Ld), *2667* (Ld), *3973* (Ld); *Maguire, Wurdack, & Maguire 41630* (W--2279293); *Wurdack & Adderley 43707* (W--2320950). Bolívar: *Steyermark & Liesner 127482* (Ld). BRAZIL: Amazonas: *Janssen 276* (Ld).

*SYNGONANTHUS HETEROPEPLUS* (Körn.) Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 84--85. 1977; Mold., *Phytol. Mem.* 2: 126 & 623. 1980.

*SYNGONANTHUS HETEROPHYLLUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 42: 200. 1979; Mold., *Phytol. Mem.* 2: 166 & 623. 1980; Mold., *Phytologia* 54: 237. 1983.

Recent collectors have found this plant growing in cerrado on campo rupestre, in both flower and fruit in May.

Additional citations: BRAZIL: Minas Gerais: *Gibbs, Abbott, & Andrade 5006* (Ld); *Hatschbach 41323* (N, W--2840048). Rio de Janeiro: *Araujo & Henriques 4910* [Herb. FEEMA. 22138] (N).

MOUNTED ILLUSTRATIONS: Alv. Silv., *Fl. Mont.* 1: pl. 234. 1928 (Ld--photo of type, N--photo of type).

*SYNGONANTHUS HETEROTRICHUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 85--86 & 262. 1977; Mold., *Phytol. Mem.* 2: 166 & 623. 1980.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: A. Silv., *Fl. Serr. Min.* 73. 1908 (W); A. Silv., *Fl. Mont.* 1: 311--313, pl. 197 (Ld, N) & 198. 1928 (Ld--photo of type, N--photo of type, W--photo of type); Mold., *Phytologia* 4: 320. 1953 (W).

*SYNGONANTHUS HIRTELLUS* Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 86. 1977; Mold., *Phytol. Mem.* 2: 166 & 623. 1980.

*SYNGONANTHUS HONDURENSIS* Mold.

Additional bibliography: Mold., *Phytologia* 42: 200. 1979; Mold., *Phytol. Mem.* 2: 74 & 623. 1980.

*SYNGONANTHUS HUBERI* Ruhl.

Additional bibliography: Mold., *Phytologia* 42: 200. 1979; Mold., *Phytol. Mem.* 2: 112, 120, 123, 166, 172, & 623. 1980.

Recent collectors describe the flowers of this plant as "cream"-color and have found it growing on wet waterfall rocks, in water of small streams below morichal, and with *Utricularia* on sand near rivers, in both flower and fruit in August and December. It has been encountered at 950 m. altitude.

The *Calderón, Monteiro, & Guedes 2609*, *Cuatrecasas 6982*,

*Schultes & Cabrera 13109, 13192, 14412, 17240, & 19702, and A. C. Smith 2112, distributed as S. huberi, actually are S. macrocaulon Ruhl.*

Additional citations: COLOMBIA: Meta: Killip 34259 (W--1771076). VENEZUELA: Bolívar: Steyermark & Liesner 127427 (Ld). BRAZIL: Amazônia: Calderón, Monteiro, & Guedes 2957 (Ld, W--2931224); Kubitzki, Calderón, & Poppendieck 79-131 (W--2927022); Prance, Maas, Atchley, Steward, Woolcott, Coêlho, Monteiro, Pinheiro, & Ramos 14426 (N, W--2801668). Pará: Campbell, Ongley, Ramos, Monteiro, & Nelson P.22433 (N, W--2935296); Cid, Ramos, & Mota 1257 [Herb. INPA. 94632] (Ld, N).

*SYNGONANTHUS HUBERI* f. *VIVIPARUS* Mold.

Additional bibliography: Mold., *Phytologia* 42: 200. 1979; Mold., *Phytol. Mem.* 2: 166 & 623. 1980.

*SYNGONANTHUS HUMBERTI* Mold.

Additional bibliography: Mold., *Phytologia* 37: 88. 1977; Mold., *Phytol. Mem.* 2: 251 & 623. 1980.

Additional citations: MOUNTED ILLUSTRATIONS: Mold. in Humbert, *Fl. Madag.* 36: fig. 18--24. 1955 (Ld).

*SYNGONANTHUS HUMBOLDTII* (Kunth) Ruhl.

Additional bibliography: Knuth, *Feddes Repert. Spec. Nov. Beih.* 43: [Init. Fl. Venez.] 182. 1927; Mold., *Phytologia* 42: 200--201. 1979; Mold., *Phytol. Mem.* 2: 112, 120, 125, 166, 443, 623, & 627. 1980; Hocking, *Excerpt. Bot. A.* 35: 324. 1980; Mold., *Phytologia* 45: 40 (1980), 46: 155 (1980), 50: 245, 246, & 264 (1982), 51: 245 (1982), 52: 119 (1982), 54: 145 & 235 (1983), and 55: 84 & 102--104. 1984.

Recent collectors describe this plant as a small or even diminutive, ephemeral herb, 10--20 cm. tall, the inflorescence heads white or grayish-white, and the flowers themselves white or pale gray. They refer to it as "rare" or "common" on the white sand of wet savannas or even to be dominant there, in wet places in general and at water-holes, on wet campos and open white-sand campinas, abundant on sandy disturbed savannas, frequent on sabana anegazida, on "sabana baja sobre suelo rosado-blancizo arenoso y 'cowfoothill'-sabana", and "in the lower part of quebradas among rocks with a narrow gallery forest with *Mauritia*", at 70--300 m. altitude, in flower in January, April, and September, and both in flower and fruit in February, August, and November.

Knuth (1927) cites *Chaffanjon 121 & 137 and Humboldt & Bonpland s.n.* from Bolívar, Venezuela.

Material of typical *S. humboldtii* has been misidentified, distributed in some herbaria, and even cited by me in previous installments of these notes as the very similar *S. fertilis* (Körn.) Ruhl., *S. fertilis* var. *glandulosus* (Gleason) Mold., and *S. humboldtii* var. *humilis* Mold.

On the other hand, the Cuatrecasas 7693, distributed and even

previously cited by me as typical *S. humboldtii*, actually is now the type collection of its var. *glabrescens* Mold., while Agostini 256 & 348, Davidse 2752, Lasser 1762, Malme 3342, Murça Pires 16068, Murça Pires & al. 6078 & 6188, Oldenburger & al. ON.558, Prance & al. P.25188 & P.25247, Vareschi & Foldats 4629, and Wurdack & Monachino 39948 are *S. fertilis* (Körn.) Ruhl., and Cárdenas & Pyykkö 1395 and Zarucchi 1998 are *S. fertilis* var. *fuscus* Mold.

Additional & emended citations: VENEZUELA: Amazonas: Foldats 3536 (N); Holt & Gehriger 234 [Herb. Leonard 7662] (B, Cm, N, Ve, W--1471944); O. Huber 571 (Ld), 971 (Ld), 1077 (Ld), 1195 (Ld), 1385 (Ld), 1549 (Ve), 1681 (Ld), 2180 (Ld), 2381 (Ld), 2720 (Ld), 4156 (Ld), 4172 (Ld), 4690 (Ve); Maas & Huber 5128 (Ba); Maguire, Cowan, & Wurdack 30985 (N, Ve). Apure: Davidse & González 15523 (Ld). Bolívar: J. A. Steyermark 75264 (Ld, N, W--2407749). BRAZIL: Mato Grosso: Kuhlmann 1630 (N); Malme 3342 (N, S, S). Pará: Daly, Callejas, Silva, Taylor, Rosario, & Santos 1079 (Ld); Murça Pires, Black, Wurdack, & Silva 6078 (N), 6188 (N). Roraima: Steward, Araujo, Buck, Ramos, & Ribamar 148 (N).

*SYNGONANTHUS HUMBOLDTII* var. *ELONGATUS* Mold.

This taxon is now regarded as a synonym of typical *S. fertilis* (Körn.) Ruhl., which see.

*SYNGONANTHUS HUMBOLDTII* var. *GLABRESCENS* Mold., Phytologia 46: 155. 1980.

Bibliography: Mold., Phytol. Mem. 2: 112 & 623. 1980; Mold., Phytologia 46: 155 (1980) and 52: 119. 1982.

This variety, based on Cuatrecasas 7693, with glabrous or glabrescent sheaths, was found growing in granitic soil on savannas, at 270 m. altitude, flowering in November. The flowers are described by the collector as white. It was previously erroneously regarded by me and cited by me as representing typical *S. humboldtii* (Kunth) Ruhl. Other collectors have found the plant growing in "marshy grassland around marsh among savanna-covered sand-dunes" and associated with *Panicum*, at 80--95 m. altitude, in both flower and fruit in March.

Citations: COLOMBIA: Meta: Davidse 16827a (Ld). Vaupés: Cuatrecasas 7693 (Ld--type, N--isotype, W--1796742--isotype). VENEZUELA: Apure: Davidse & González 15994 (Ld).

*SYNGONANTHUS HUMBOLDTII* var. *GLANDULOSUS* Gleason

This taxon is now known as *S. fertilis* var. *glandulosus* (Gleason) Mold., which see.

*SYNGONANTHUS HUMBOLDTII* var. *HUMILIS* Mold., Phytologia 45: 40. 1980.

Synonymy: *Syngonanthus humboldtii* var. *nanus* Mold., Phytol. Mem. 2: 627 nom. nud. 1980.

Bibliography: Hocking, Excerpt. Bot. A.35: 324. 1980; Mold.,

Phytol. Mem. 2: 623. 1980; Mold., Phytologia 45: 40 (1980) and 50: 246 & 264. 1982.

The *O. Huber 971*, distributed as this variety, actually seems to represent typical *S. humboldtii* (Kunth) Ruhl.

Citations: VENEZUELA: Amazonas: *O. Huber 4235* (Ld). Apure: *Davidse & González 15961* (Ld--type).

*SYNGONANTHUS HUMBOLDTII* var. *MACROCEPHALUS* Mold.

Additional bibliography: Mold., Phytologia 37: 92. 1977; Mold., Phytol. Mem. 2: 120 & 623. 1980.

*SYNGONANTHUS HUMBOLDTII* var. *ORINOCENSIS* Mold.

This taxon is now known as *S. fertilis* var. *orinocensis* (Mold.) Mold., which see.

*SYNGONANTHUS HUMBOLDTII* var. *SIMPLEX* Mold., Phytologia 51: 245. 1982.

Bibliography: Mold., Phytologia 51: 245. 1982.

Citations: BRAZIL: Pará: *Martinelli 6895* [R. B. Herb. 203429] (N--type).

*SYNGONANTHUS* x *HYBRIDUS* Mold.

Additional bibliography: Mold., Phytologia 37: 93 & 267. 1977; Mold., Phytol. Mem. 2: 234, 444, & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS: H. Hess, Bericht. Schweitz. Bot. Gesell. 65: 198, fig. 6. 1955 (Ld--photo of type).

*SYNGONANTHUS HYGROTRICHUS* Ruhl.

Additional bibliography: Mold., Phytologia 37: 93--94. 1977; Mold., Phytol. Mem. 2: 166 & 624. 1980.

*SYNGONANTHUS IMBRICATUS* (Körn.) Ruhl.

Additional bibliography: Mold., Phytologia 37: 94--95. 1977; Mold., Phytol. Mem. 2: 166 & 624. 1980.

Additional citations: BRAZIL: Bahia: *Carvalho, Lewis, & Hage 1027* (Ld).

*SYNGONANTHUS INSULARIS* Mold.

Additional bibliography: Mold., Phytologia 37: 85 & 252. 1977; Mold., Phytol. Mem. 2: 91, 92, & 624. 1980.

Additional citations: CUBA: Pinar del Río: *León 15359* (N). ISLA DE PINOS: *Bartsch s.n.* [Apr. 11, 1937] (W--1559730); *Britton, Britton, & Wilson 14162* (Ld--isotype, W--793033--isotype); *Killip 42853* (W--2111875), *43684* (W--2175864), *44564* (W--2112726), *45613* (W--2226404); *Leon & Seifríz 17521* (W--1784921).

*SYNGONANTHUS INUNDATUS* (Körn.) Ruhl.

Additional bibliography: Mold., Phytologia 37: 95--96 (1977) and 38: 33. 1977; Mold., Phytol. Mem. 2: 166 & 624. 1980.

*SYNGONANTHUS ITAMBEENSIS* Alv. Silv.

Additional bibliography: Mold., Phytologia 42: 201. 1979;

Mold., *Phytol. Mem.* 2: 166, 444, & 624. 1980.

*SYNGONANTHUS KUHLMANNII* Mold.

Additional bibliography: Mold., *Phytologia* 37: 97 & 274. 1977; Mold., *Phytol. Mem.* 2: 166 & 624. 1980.

This species is very similar in general appearance to *S. densus* (Körn.) Ruhl.

Additional citations: BRAZIL: Amazônas: Prance, Pena, Forero, Ramos, & Monteiro 4790 (W--2576767). Pará: Cid, Ramos, & Mota 1504 (Ld, N).

*SYNGONANTHUS KUHLMANNII* f. *VIVIPARUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 97. 1977; Mold., *Phytol. Mem.* 2: 166 & 624. 1980.

Additional citations: BRAZIL: Amazônas: Prance, Pena, Forero, Ramos, & Monteiro 4790a (W--2576766--isotype).

*SYNGONANTHUS LAGOPODIOIDES* (Griseb.) Ruhl.

Additional bibliography: Hocking, *Excerpt. Bot. A.* 31: 18. 1978; Mold., *Phytologia* 42: 201. 1979; Mold., *Phytol. Mem.* 2: 91, 92, & 624. 1980; Mold., *Phytologia* 53: 368 (1983) and 54: 232. 1983.

Material of this species has been misidentified and distributed in some herbaria as *Eriocaulon echinospermum* C. Wright. On the other hand, the Bartsch s.n. [Apr. 11, 1937], distributed as *S. lagopodioides*, actually is *S. insularis* Mold., as is also the León 15359 collection previously cited by me as *S. lagopodioides*. No less than 23 of the collections previously cited by me as this species are now regarded by me as representing the f. *minor* Mold., which see (below).

Additional citations: CUBA: Pinar del Río: Britton, Britton, & Gager 7058 (W--696884); Ekman 11035a (W--1302528), 11145 (W--1302532), 17254 (W--1302683); Killip 32327 (W--1712947); Shafer 10866 (W--793813); C. Wright 3237 in part (W--46431--isotype), s.n. (W--937168). ISLA DE PINOS: Britton, Britton, & Wilson 15789 (W--793387); Ekman 17254 (W--1302683); Killip 42672 (W--2111728), 43033 (W--2112026), 44064 (It, W--2176137), 44578 (W--2112736), 45171 (W--2226070), 45172 (W--2226071), 45562 (W--2226366), 45584 (W--2226381); Palmer & Riley 1056 (W--372566).

*SYNGONANTHUS LAGOPODIOIDES* f. *MINOR* Mold., *Phytologia* 53: 368. 1983.

Bibliography: Mold., *Phytologia* 53: 368 (1983) and 54: 232. 1983.

Collectors have encountered this plant in marshy soil at the edges of lakes, on white-sand savannas, in moist pinelands, and in moist sand along railroad tracks, in both flower and fruit from October to January.

Most of the collections cited below were previously listed by me under typical *S. lagopodioides* (Griseb.) Ruhl. before the present taxon was recognized. Collectors describe the plant as attaining a height of 2--4 inches.

Citations: CUBA: Pinar del Río: Carabia 739 (Cr, N), 741 (Cr,

N), 743 (Cr, N), 744 (Cr, N), 746 (Cr, N), 3021 (Cr, N); Ekman 10823 (N), 11061 (N); León 15359 (N), 17434 (N), 17438b (N); León & Alain 17795 (N); León, Moldenke, Acuna, & Alain 23402 (N, N), 23405 (N), 23406 (N), 23407 (N); Moldenke & Moldenke 19917 (Ld--type, N--isotype); Shafer 10995 (N). ISLA DE PINOS: Alain & Killip 2116 (W--2110106), 2162 (W--2110142); Britton, Britton, & Wilson 14217 (N), 14223 in part (N, W--793070); Carabia 997 (Cr, N), 1082 (Cr, N), 1189 (Cr, N), 3933 (Cr, N); Ekman 11973 (Ca--491268, N), 12071 (N, S, W--1302550); Killip 42600 (Le, W--2111673), 42672 (Le, S, W--2111728), 42830 (Le, W--2111858), 42856 (Gg--401112, Le, Mu, W--2111877), 42861 (Le, N, W--2111881), 44545 (Ld, N, W--2112709), 44565 (Ss, W--2112727), 44578 (Ss, W--2112736), 45172 (B, Mu, W--2226071), 45392a (Sm, W--2226229), 45508 (Sm, W--2226322), 45562 (Sm, W--2226366).

*SYNGONANTHUS LANATUS* Mold.

Additional bibliography: Galvão & Cavalcante, Bol. Mus. Para. Goeldi, ser. 2, Bot. Ind. 3 & 15. 1975; Mold., Phytologia 42: 201 (1979) and 46: 155. 1980; Mold., Phytol. Mem. 2: 120, 166, & 624. 1980.

Recent collectors have encountered this plant in "barrancos sombrio umidos as margens de rio". in both flower and fruit in October.

Additional citations: VENEZUELA: Bolívar: J. A. Steyermark 107221 (W--2925927). BRAZIL: Goiás: Hatschbach & Kasper 41698 (Ld).

*SYNGONANTHUS LANATUS* var. *ALPINUS* Mold.

Additional bibliography: Mold., Phytologia 37: 253. 1977; Mold., Phytol. Mem. 2: 120 & 624. 1980.

Recent collectors describe this plant as being definitely caulescent, the leaves erect, pale-green, in dense rosettes, pubescent, soft, the flower-heads white, and found it growing in dense tufts on rocky plateaus bordering *Bonnettia roraimae* groves and in *Stegolepis-Brocchinia-Heliamphora* bogs, at 1600--2420 m. altitude, flowering and fruiting in May, also in fruit in August. Steyermark and his associates note that the plant "also resembles *S. pakaraimensis* Mold."

Additional citations: VENEZUELA: Bolívar: Moore, Ambrose, Dietz, & Pfister 9792 (Ba); Steyermark, Espinosa, McDiarmid, & Brewer-Carías 115700 (Ld), 115727 (Ld).

*SYNGONANTHUS LANATUS* var. *GLABRESCENS* Mold., Phytologia 46: 155. 1980.

Bibliography: Mold., Phytologia 46: 155. 1980; Mold., Phytol. Mem. 2: 166 & 624. 1980.

Citations: BRAZIL: Mato Grosso: Murça Pires & Santos 16392 (N--type).

*SYNGONANTHUS LANCEOLATUS* Alv. Silv.

Additional bibliography: Mold., Phytologia 37: 253. 1977; Mold., Phytol. Mem. 2: 166 & 624. 1980.



Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: *Alv. Silv.*, *Fl. Mont.* 1: 386--387, pl. 246. 1928 (Ld, N. W).

*SYNGONANTHUS LARICIFOLIUS* (G. Gardn.) Ruhl.

Additional bibliography: *Mold.*, *Phytologia* 37: 253--255 (1977) and 38: 25 & 38. 1977; C. D. Cook in Heywood, *Flow. Pl. World* 281, fig. 2. 1978; *Mold.*, *Phytol. Mem.* 2: 166 & 624. 1980.

Additional illustrations: C. D. Cook in Heywood, *Flow. Pl. World* 281, fig. 2. 1978.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: G. Gardn. in Hook., *Icon. Pl.* 6 [ser. 2, 2]: pl. 524. 1843 (W); *Steud.*, *Syn. Pl. Glum.* 2: [Cyp.] 281. 1855 (W).

*SYNGONANTHUS LARICIFOLIUS* var. *LONGIFOLIUS* *Alv. Silv.*

Additional bibliography: *Mold.*, *Phytologia* 37: 255. 1977; *Mold.*, *Phytol. Mem.* 2: 166 & 624. 1980.

Citations: MOUNTED CLIPPINGS: *Alv. Silv.*, *Fl. Mont.* 1: 340. 1928 (N, W).

*SYNGONANTHUS LEONII* *Mold.*

Synonymy: *Syngonanthus leoni* *Mold.* ex León & Alain, *Fl. Cuba*, *imp.* 1, 1: 284. 1946.

Additional bibliography: *Mold.*, *Phytologia* 37: 255. 1977; *Mold.*, *Phytol. Mem.* 2: 91 & 624. 1980; *Mold.*, *Phytologia* 50: 264. 1982.

*SYNGONANTHUS LEPRIEURI* (Körn.) Ruhl.

Additional bibliography: *Hocking*, *Excerpt. Bot.* A.33: 5 & 165. 1979; *Mold.*, *Phytologia* 42: 201. 1979; *Mold.*, *Phytol. Mem.* 2: 120, 126, 166, 426, 444, & 624. 1980; *Mold.*, *Phytologia* 54: 237. 1983.

Huber refers to this plant as a small herb common in white sand areas and "common all over the savannas", the flower-heads white. Janssen found it growing on temporarily flooded land with dense trees and shrubs, describing it as an herb "to 60 cm. tall", but the actual specimens accompanying this collection number (seen by me) are only to 22 cm. tall -- his statement on the label must surely be in error! The plant has been encountered at 100 m. altitude, both flowering and fruiting in August.

Additional citations: VENEZUELA: Amazonas: *O. Huber* 2531 (Ld), 2576 (Ld). Bolívar: *J. A. Steyermark* 111277 (W--2814185). FRENCH GUIANA: *Cremers* 5495 (Ld). BRAZIL: Amazônas: *Janssen* 578 (Ld).

*SYNGONANTHUS LEPRIEURI* f. *VIVIPARUS* *Mold.*

Additional bibliography: *Hocking*, *Excerpt. Bot.* A.33: 5 & 165. 1979; *Mold.*, *Phytologia* 42: 201. 1979; *Mold.*, *Phytol. Mem.* 2: 166 & 624. 1980.

Additional citations: BRAZIL: Pará: *Prance*, *Silva*, *Berg*, *Henderson*, *Nelson*, *Balick*, *Bahia*, & *Santos* P.24837 (W--2868541--isotype).

*SYNGONANTHUS LINEARIS* Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 256. 1977; Mold., *Phytol. Mem.* 2: 166 & 624. 1980.

*SYNGONANTHUS LLANORUM* Ruhl.

Additional bibliography: Mold., *Phytologia* 42: 201--202. 1979; Mold., *Phytol. Mem.* 2: 112, 120, & 624. 1980.

*SYNGONANTHUS LONGIPES* Gleason

Additional bibliography: Mold., *Phytologia* 42: 202. 1979; Mold., *Phytol. Mem.* 2: 112, 120, 123, 125, 166, & 624. 1980; Mold., *Phytologia* 54: 237. 1983.

Recent collectors describe this plant as an erect herb, about 30 cm. tall, the inflorescence heads white or "light". They have found it growing in brejo, on savannas, on wet banks and moist sand banks, near morichal on "sabanas de tatuco", and on "treeless wet savannas dominated by *Axonopus*, *Paspalum*, *Panicum*, and in spots *Rapateaceae*" -- ones notes "frequent on savannas, the immature flowers and buds maroon". They have found it as 100--1500 m. altitude, in both flower and fruit in February, March, May, and November, in flower also in August and December.

Additional citations: COLOMBIA: Guainía: *García-Barriga* 20836 (W--2844153). Vaupés: *Schultes, Baker, & Cabrera* 18448 (W--2198902); *Schultes & Cabrera* 14239 (W--2198868). VENEZUELA: Amazonas: *Brewer-Carías* s.n. [13 Dec. 1983] (Ld); *O. Huber* 2554 (Ld), 2686 (Ve), 3196 (Ve); *Huber & Medina* 5890 (Ld); *Huber & Tillett* 2895 (Ld); *Maguire, Cowan, & Wurdack* 30983 (W--2046519); *Thomas & Rogers* 2681 (N); *Wurdack & Adderley* 43714 (W--2320951). Bolívar: *Davidse, Ramia, & Montes* 4827 (E--2773080); *B. Maguire* 33230 (W--2168901); *J. A. Steyermark* 60304 (W--1987435), 75275 (W--2407751); *Steyermark, Berry, Dunsterville, & Dunsterville* 117229 (Ld); *Steyermark & Liesner* 127316 (Ld), 127480 (Ld); *Steyermark & Wurdack* 25 (W--2168500, W--2407788). GUYANA: *Maas, Mennega, Welle, & Groen* 5682 (Ld). BRAZIL: Distrito Federal: *Héringer, Filgueiras, Mendonça, & Pereira* 7394 (N, W--2941406); *Héringer, Mendonça, Pereira, Salles, & Silva* 4311 (N). Goiás: *Irwin, Maxwell, & Wasshausen* 19220 (W--2801665). Pará: *W. A. Anderson* 11013 (W--2755400). Rondônia: *Prance, Forero, Coêlho, Ramos, & Farias* 5764 (W--2573055A); *Prance, Rodrigues, Ramos, & Farias* 8575 (W--2573057A).

*SYNGONANTHUS LONGIPES* var. *PILOSUS* Mold.

Additional bibliography: Mold., *Phytologia* 42: 202. 1979; Mold., *Phytol. Mem.* 2: 166 & 624. 1980.

*SYNGONANTHUS JUNDELLIANUS* Mold.

Additional bibliography: Mold., *Phytologia* 42: 202. 1979; Mold., *Phytol. Mem.* 2: 74 & 624. 1980.

*SYNGONANTHUS MACROCAULON* Ruhl.

Additional synonymy: *Syngonanthus macrocaulon* "Ruhl Doel Ruhl" ex Mold., *Phytol. Mem.* 2: 444 in syn. 1980.

Additional bibliography: Mold., *Phytologia* 42: 202. 1979; Mold., *Phytol. Mem.* 2: 112, 123, 125, 129, 166, 442, 444, & 624. 1980; Mold., *Phytologia* 54: 235 & 269 (1983) and 55: 81. 1984.

Recent collectors describe this plant's inflorescences as white or whitish and have found it growing in "catanga úmida cortada por diversos igarapés", on sandy banks, frequent on white-sand savannas and quartzite-based savannas, and as an aquatic under water in rapids and at the edges of waterfalls, at 150--250 m. altitude, in flower in May and December, and in both flower and fruit in June, July, and from September to November. Calderón and his associates refer to it as "very abundant delicate plants running over mosses on rocky river edges above waterfalls".

Material of *S. macrocaulon* has been misidentified and distributed in some herbaria, and even previously reported by me, as the very similar *S. anomalus* (Körn.) Ruhl. and *S. huberi* Ruhl., as well as *Tonina fluviatilis* Aubl. and *Tonina* sp. The Maguire & Politi 28309 collection, cited below, is a mixture with *Paepalanthus fasciculatus* (Rottb.) Kunth.

Additional & emended citations: COLOMBIA: Vaupés: Cuatrecasas 6982 (N, N, W--1796734); Schultes & Cabrera 13109 (Ss, W--2171099, W--2198878), 13192 (Ss, W--2198881), 14412 (Ss, W--2171416, W--2198872), 17240 (Ss, W--2198887), 19702 (N, W--2198922); Zarucchi 1934 (W--2832360). VENEZUELA: Amazonas: Maguire & Politi 28309 in part (W--2046458). GUYANA: A. C. Smith 2112 (W--1776633). FRENCH GUIANA: Oldeman B, 2674 (Cy, Ld). BRAZIL: Amapá: Austin, Nauman, Rabelo, Rosário, & Santos 7306 (Ld, N, W--2932765); Egler & Murça Pires 47724 (W--2435310); Murça Pires & Cavalcante 52413 (W--2514895). Amazonas: Calderón, Monteiro, & Guedes 2609 (W--2931240). Pará: Murça Pires & Silva 4380 (Ld, N, W--2248395); Rosa & Santos 1880 (N, N).

*SYNGONANTHUS MACROLEPIS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 261. 1977; Mold., *Phytol. Mem.* 2: 166 & 624. 1980.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Serr. Min. 72. 1908 (W); Alv. Silv., Fl. Mont. 1: 309--311, pl. 196 & 196a. 1928 (Ld, N, W).

*SYNGONANTHUS MARGINATUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 261--262. 1977; Monteiro, Giuliatti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: [43], 45--47, 53, & 58, fig. 83--89. 1979; Mold., *Phytol. Mem.* 2: 166 & 624. 1980.

Additional illustrations: Monteiro, Giuliatti, Mazzoni, & Castro, Bol. Bot. Univ. S. Paulo 7: 58, fig. 83--89. 1979.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Mont. 1: 336--337, pl. 212. 1928 (Ld, N, W).

*SYNGONANTHUS MENDESII* Mold.

Additional bibliography: Mold., *Phytologia* 37: 262. 1977; Angely, S. Am. Bot. Bibl. 2: 671. 1980; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

*SYNGONANTHUS MICROCEPHALUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 262. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 378--379, pl. 240. 1928 (Ld, N, W).

*SYNGONANTHUS MICROPUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 262--263. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPING: Alv. Silv., *Fl. Mont.* 1: 314--315, pl. 199. 1928 (Ld, N, W).

*SYNGONANTHUS MINUTIFOLIUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 263. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 351--352, pl. 218. 1928 (Ld, N, W).

*SYNGONANTHUS MINUTULUS* (Steud.) Mold.

Additional bibliography: Mold., *Phytologia* 42: 44 & 202. 1979; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Bong., *Ess. Monog. Erioc.* 34. 1831 (N, W).

*SYNGONANTHUS MULTICAULIS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 264--265 (1977) and 38: 28. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 380--382, pl. 242. 1928 (Ld, N, W).

*SYNGONANTHUS MULTICAULIS* var. *GLAUCUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 265. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

*SYNGONANTHUS MULTIPES* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 265. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 824--826, pl. 206. 1928 (Ld, N, W).

*SYNGONANTHUS NANUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 266. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

*SYNGONANTHUS NGOWEENSIS* H. Lecomte

Additional bibliography: Mold., *Phytologia* 42: 202. 1979; Mold., *Phytol. Mem.* 2: 207, 217, 221, 223, 234, 238, & 624. 1980.

*SYNGONANTHUS NIGER* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 267. 1977; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Citations: MOUNTED CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 331--333.

1928 (Ld, N, W).

*SYNGONANTHUS NIGRO-ALBUS* Alv. Silv.

Additional bibliography: Mold., Phytologia 37: 267. 1977; Mold., Phytol. Mem. 2: 167, 444, & 624. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., Fl. Mont. 1: 350--351, pl. 222. 1928 (Ld, N, W).

*SYNGONANTHUS NITENS* (Bong.) Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.31: 18. 1978; Mold., Phytologia 42: 203. 1979; Mold., Phytol. Mem. 2: 112, 120, 135, 167, 179, 426, 428, 441, 444, & 624. 1980; Mold., Phytologia 50: 246 (1982) and 54: 235, 237, & 244. 1983; Ramaswamy, Arekal, & Raju, Bull. Torrey Bot. Club 110: 291. 1983; Mold., Phytologia 55: 108. 1984.

Recent collectors describe this plant as having shiny leaves and flowering inflorescences as white or whitish, sometimes straw-color. They have found it growing in wet places, on wet to marshy savannas leading to gallery forests, "frequent" on white-sand savannas, on campo rupestre, in open wet sedge savannas, and "locally frequent" in morichal, often growing in dense clumps, at 75--2470 m. altitude, in both flower and fruit in February, July, and December. Steyermark and his associates labeled their no. 126082 collection as "n. sp.!"

Material of *S. nitens* has been misidentified and distributed in some herbaria as *S. flavipes* Mold. On the other hand, the *Hatschbach 43211*, distributed as typical *S. nitens*, actually is the var. *hirtulus* Ruhl. and *Steyermark & al. 126082* is the type collection of *Leiothrix marahuacensis* Mold.

Additional & emended citations: VENEZUELA: Amazonas: *O. Huber 3256* (Ld), *3357* (Lc); *Steyermark, Guariglia, Holmgren, Luteyn, & Mori 126082* (Ld). Apure: *Davidse & González 14276* (Ld, N), *15867* (Ld). Bolívar: *Steyermark & Liesner 127527* (Ld); *Wurdack & Monachino 39934* (N, S, W--2223427). BRAZIL: Bahia: *Mori, King, Santos, & Hage 12409* (Ld, N--2854251), *12602* (Ld, W--2854282). Mato Grosso: *Hatschbach 24615* (W--2705717). Paraná: *Hatschbach 19963* (W--2705773). MOUNTED CLIPPINGS: Kunth, Enum. Pl. 3: 577. 1841 (W).

*SYNGONANTHUS NITENS* var. *ERECTUS* Ruhl.

Additional bibliography: Mold., Phytologia 37: 269, 271, & 273. 1977; Mold., Phytol. Mem. 2: 167 & 624. 1980.

*SYNGONANTHUS NITENS* var. *FILIFORMIS* (Bong.) Ruhl.

Additional bibliography: Mold., Phytologia 37: 269--274 & 420. 1977; Mold., Phytol. Mem. 2: 167, 179, & 624. 1980.

Additional citations: BRAZIL: Goiás: *Macedo 3353* (W--2197105). Paraná: *Reitz & Klein 17497* (W--2548330). PARAGUAY: *Schinini 22945* (Ld).

*SYNGONANTHUS NITENS* var. *HIRTULUS* Ruhl.

Additional synonymy: *Syngonanthus nitens* var. *hirtelus* Ruhl.

ex Mold., *Phytologia* 54: 244 in syn. 1983.

Additional bibliography: Mold., *Phytologia* 42: 203. 1979; Mold., *Phytol. Mem.* 2: 167, 179, 428, & 624. 1980; Mold., *Phytologia* 54: 244. 1983.

Recent collectors have encountered this plant in brejo, wet brejo, and the brejo zone of campo, in flower in September and both in flower and fruit in August and October, describing the flowers as whitish.

Material of this variety has been distributed in some herbaria as typical *S. nitens* (Bong.) Ruhl.

Additional citations: BRAZIL: Distrito Federal: *Héringer* 17389 (N); *Héringer, Filgueiras, Mendonça, & Pereira* 7496 (N, W--2971678). Minas Gerais: *Hatschbach* 30186 (W--2706045). Pará: *Prance, Silva, Berg, Henderson, Nelson, Balick, Bahia, & Santos* P.25246 (W--2868548). Paraná: *Gottsberger & Poelt* s.n. [21.7. 1979] (Gr--196-80, Gr); *Hatschbach* 14768 (Eu--5822), 43211 (Ld), 45453 (Ld).

*SYNGONANTHUS NITENS* var. *KOERNICKEI* Ruhl.

Additional bibliography: Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytologia* 42: 203. 1979; Mold., *Phytol. Mem.* 2: 112, 167, 179, & 624. 1980.

Recent collectors have encountered this plant in sandy soil of dunes, in both flower and fruit in May.

Material of this variety has been misidentified and distributed in some herbaria as *S. gracilis* (Bong.) Ruhl.

Additional citations: BRAZIL: Bahia: *Carvalho, Mori, & Boom* 714 (Ld). Distrito Federal: *Héringer, Filgueiras, Mendonça, & Pereira* 7328 (N, W--2941407). PARAGUAY: *Casas & Molero* FC.3822 (N).

*SYNGONANTHUS NITENS* f. *MALMII* Mold.

Additional bibliography: Mold., *Phytologia* 37: 421. 1977; Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

*SYNGONANTHUS NITENS* f. *PILOSUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 421. 1977; Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytol. Mem.* 2: 167 & 624. 1980; Mold., *Phytologia* 54: 237. 1983.

Recent collectors describe this plant as a frequent herb, with large, dense, basal rosettes of leaves and deep, thick roots, the inflorescence heads white, and have encountered it in brejo, in sandy soil of campo rupestre, at the edges of open, rocky streams, and in white-sand soil in depressions in savannas, at 1100 m. altitude, in both flower and fruit in July, August, and October.

Additional citations: BRAZIL: Amazonas: *Calderón, Monteiro, & Guedes* 2734 (Ld), 2735 (W--2931229). Goiás: *Hatschbach* 43075 (Ld, W--2931982). Mato Grosso: *Maguire, Murça Pires, Maguire, & Silva* 56230 (W--2514896). Paraná: *Hatschbach* 14768 (Ld). BOLIVIA: Santa Cruz: *Daly, Hopkins, Forero, Beck, Her-*

*nández, Phipps, & Wolf in Daly 2187 (Ld).*

*SYNGONANTHUS NITENS* var. *VIVIPARUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 421--422. 1977; Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytol. Mem.* 2: 167, 441, & 624. 1980.

*SYNGONANTHUS NITIDUS* (Bong.) Ruhl.

Additional bibliography: Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytologia* 42: 203. 1979; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Additional citations: BRAZIL: Minas Gerais: *Héringer & Rizzini 17612 (Fe, Ld)*. MOUNTED CLIPPINGS: Kunth, *Enum. Pl.* 3: 579. 1841 (N, W).

*SYNGONANTHUS NIVEO-AUREUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 485 (1977) and 38: 126. 1977; Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytol. Mem.* 2: 167, 361, & 624. 1980.

Citations: MOUNTED CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 375--376. 1928 (N, W).

*SYNGONANTHUS NIVEUS* (Bong.) Ruhl.

Additional & emended bibliography: Bong., *Mem. Acad. Imp. Sci. St.-Petersb.*, ser. 6, 1: 635--636. 1831; Mold., *Phytologia* 37: 485--489 (1977) and 42: 203--204. 1979; Mold., *Phytol. Mem.* 2: 167, 361, 401, & 624. 1980.

In the commercial trade the inflorescences of this plant are known as "diamantinas", "everlasting", "floral-button", "fuzzy-flowers", "glícia", "glíxia", "hill-flower", "perpetua-flowers", "sempervivum", "sempre-vivas", "sky-rocket", and "starflower".

Additional citations: CULTIVATED (imported): New Jersey: *L. Parker s.n.* [June 6, 1973] (Ba--380879). MOUNTED CLIPPINGS: Kunth, *Enum. Pl.* 3: 579. 1841 (N, W).

*SYNGONANTHUS NIVEUS* var. *ROSULATUS* (Körn.) Mold.

Additional bibliography: Mold., *Phytologia* 42: 203. 1979; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

*SYNGONANTHUS NIVEUS* var. *STRIGOSUS* Mold.

Additional bibliography: Mold., *Phytologia* 42: 203--204. 1979; Mold., *Phytol. Mem.* 2: 167 & 624. 1980.

Additional citations: BRAZIL: Bahia: *Mori, Mattos Silva, Kallunki, Santos, & Pereira dos Santos 9701 (N)*; *Ribeiro, Mattos Silva, & Hage 24 (Ld)*.

*SYNGONANTHUS OBLONGUS* (Körn.) Ruhl.

Additional bibliography: Mold., *Phytologia* 42: 204. 1979; Mold., *Phytol. Mem.* 2: 112, 120, 167, 444, & 624. 1980; Mold., *Phytologia* 50: 246. 1982.

The type collection has very much elongated stems and very few (3) peduncles, but the Froes collection, while having the elon-

gated stems, has many peduncles in the umbel.

The Anderson collection, cited below, was previously regarded by me as var. *aequinoctialis* Ruhl., but seems to me now to represent, rather, the typical form of this variable species.

Recent collectors have encountered the plant growing "in sand over rocks by waterfalls", flowering in August.

The following collections, previously cited at the typical form of this species, are now regarded as representing the var. *aequinoctialis* Ruhl.: Berg, Bisby, Steward, & Ramos P.18192, Cuatrecasas 7158, Maguire & Maguire 29158, Schultes & Cabrera 17519, 19677, 19692, & 19753, Steyermark 90341, and Steyermark & al. 124062.

Additional & emended citations: VENEZUELA: Amazonas: Maguire, Cowan, & Wurdack 29630 (W--2046479). BRAZIL: Amazonas: Calderón, Monteiro, & Guedes 2959 (Ld, W--2931223). Maranhão: Prance 2100 (W--2573058A). Pará: W. R. Anderson 10644 (Ld, N, W--2755402); Froes 29940 (W--2343720). Piauí: G. Gardner 2962 (W--936280--isotype, W--1066758--isotype).

*SYNGONANTHUS OBLONGUS* var. *AEQUINOCTIALIS* Ruhl.

Additional bibliography: Mold., Phytologia 42: 204. 1979; Mold., Phytol. Mem. 2: 112, 167, 444, & 624. 1980; Mold., Phytologia 50: 246. 1982.

Recent collectors have encountered this plant in rills and on savannas over a quartzite base, at 265--1200 m. altitude, in flower in January and November. Most of the cited collections exhibit the characteristic short stems of the variety. The W. R. Anderson 10644, previously cited as this variety, seems now to me to represent the typical form of the species.

Additional & emended citations: COLOMBIA: Vaupés: Cuatrecasas 7158 (N, N, W--1796736); Schultes & Cabrera 17519 (Ss, W--2198888), 19677 (Ss, W--2198920), 19692 (Ss, W--2198921), 19753 (Ss, W--2198925). VENEZUELA: Amazonas: Maguire & Maguire 29158 (N, Ve, W--2046471). Bolívar: J. A. Steyermark 90341 (Ca, W--2430206); Steyermark, Maguire, Brewer-Carias, Maguire, & Espinosa 124062 (N). BRAZIL: Amazonas: Berg, Bisby, Steward, & Famos P.18192 (Ld, N, W--2772581); Nelson & Lima P.21062 (N, W--2935358). MOUNTED CLIPPINGS: Herzog, Feddes Repert. Spec. Nov. 29: 212. 1931 (N, W).

*SYNGONANTHUS OBTUSIFOLIUS* Mold.

Additional bibliography: Mold., Phytologia 37: 492. 1977; Mold., Phytol. Mem. 2: 120 & 624. 1980.

Recent collectors describe this plant as having pale-green leaves, all in one plane, in habit resembling *Stegolepis*, and the inflorescence heads gray or "gris dorados", sometimes whitish. They have encountered it on rocky or swampy savannas and among sandstone rocks. Huber and his associates refer to it as frequent or very frequent in open rocky areas and also on open savannas and frequent "en pradera", at 1850--2200 m. altitude. They have found it in both flower and fruit in January and February.

Additional citations: VENEZUELA: Bolívar: Huber & Steyermark



6864 (Ld), 7061 (Ld), 7082 (Ld); Steyermark, Huber, & Carreño E. 122090 (Ld), 128453 (Ld), 128519 (Ld), 128793 (Ld); Steyermark & Wurdack 406 (W--2168590--isotype, W--2407790--isotype).

*SYNGONANTHUS ONEILLII* Mold.

Additional bibliography: Mold., *Phytologia* 42: 204. 1979; Mold., *Phytol. Mem.* 2: 74 & 624. 1980.

Additional citations: BELIZE: O'Neill 8548 (Ld--photo of isotype, W--1790080--isotype), 8549 (W--1790081).

*SYNGONANTHUS PAEPALOPHYLLUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 493. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 377--378, pl. 240. 1928 (Ld, N, W).

*SYNGONANTHUS PAKARAIMENSIS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 493. 1977; Mold., *Phytol. Mem.* 2: 120, 123, & 625. 1980; Mold., *Phytologia* 55: 98. 1984.

Recent collectors describe this plant as being non-caulescent, the leaves spreading, rich-green, borne in dense rosettes, and have found it growing on rocky plateaus, at 2360--2420 m. altitude, in fruit in February. Steyermark notes that it "also resembles *S. lanatus* var. *alpinus* Mold." The *B. Maguire* 33231, previously reported as *S. pakaraimensis*, actually is *S. densus* (Körn.) Ruhl., a very similar species.

Additional citations: VENEZUELA: Bolívar: *B. Maguire* 33748 (W--2168917); *J. A. Steyermark* 93761 (W--2584302); Steyermark, Espinosa, McDiarmid, & Brewer-Carías 115726 (Ld). GUYANA: *Maguire & Fanshawe* 32539 (W--2168885--isotype).

*SYNGONANTHUS PALLENS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 493--494. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 349--350, pl. 221. 1928 (Ld, N, W).

*SYNGONANTHUS PARAËNSIS* Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 494--495. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

Additional citations: BRAZIL: Amapá: *Egler & Irwin* 46578 (W--2435309). Amazonas: *Baldwin* 3231 (W--1878804).

*SYNGONANTHUS PAUCIFLORUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 37: 495. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

Citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 356--357, pl. 226. 1928 (Ld, N, W).

*SYNGONANTHUS PAUPER* Ruhl.

Additional bibliography: Mold., *Phytologia* 37: 495--496. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

*SYNGONANTHUS PERUVIANUS* Ruhl.

Additional bibliography: Mold., *Phytologia* 42: 204. 1979; Mold., *Phytol. Mem.* 2: 135 & 625. 1980.

Additional citations: PERU: Amazonas: *Hutchison & Wright 5556* (W--2508671). MOUNTED CLIPPINGS: J. F. Macbr., *Field Mus. Publ. Bot.* 11: 8. 1931 (W).

*SYNGONANTHUS PHELPSAE* Mold.

Additional bibliography: Mold., *Phytologia* 42: 204. 1979; Mold., *Phytol. Mem.* 2: 120, 167, 444, & 625. 1980.

Recent collectors describe this plant as growing in grass-green tufts on rocky wet savannas dominated by *Stegolepis* and *Cottendorfia*, with *Nietneria*, *Tofieldia*, *Xyris*, *Abolboda*, and *Lagenocarpus* also present and in large tufts on open wet savannas, at 1300--1540 m. altitude, in flower and fruit in May, and also in fruit in April. Steyermark and his associates refer to it as common on wet swampy savannas, the leaves rich-green and the flower-heads "pale-white".

Additional citations: VENEZUELA: Amazonas: *Maguire & Politi 27697* (W--20464420). Bolívar: *B. Maguire 32801* (W--2168892); *J. A. Steyermark 93504* (Ld, W--2584106), *93696* (W--2584108); *Steyermark, Berry, Dunsterville, & Dunsterville 117342* (Ld), *117500* (Ac); *Steyermark, Dunsterville, & Dunsterville 117966* (Ld).

*SYNGONANTHUS PHELPSAE* var. *CARDONAE* Mold.

Additional bibliography: Mold., *Phytologia* 37: 498 (1977) and 42: 204. 1979; Mold., *Phytol. Mem.* 2: 120, 444, & 625. 1980.

Phelps and Hitchcock refer to this as a "typical little humus plant growing all over the cumbre", in fruit in February.

Additional citations: VENEZUELA: Amazonas: *Cowan & Wurdack 31098* (W--2046523--isotype); *Phelps & Hitchcock 524* (N).

*SYNGONANTHUS PHELPSAE* var. *PILOSUS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 499. 1977; Mold., *Phytol. Mem.* 2: 120 & 625. 1980.

Additional citations: VENEZUELA: Amazonas: *Maguire, Wurdack, & Bunting 37308* (W--2168999--isotype); *Maguire, Wurdack, & Maguire 42261* (W).

*SYNGONANTHUS PHELPSAE* var. *VIRIDIS* Mold.

Additional bibliography: Mold., *Phytologia* 37: 499. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

*SYNGONANTHUS PHILCOXII* Mold.

Additional bibliography: Mold., *Phytologia* 37: 499. 1977; Mold., *Phytol. Mem.* 2: 167 & 625. 1980.

*SYNGONANTHUS PHILODICOIDES* (Körn.) Ruhl.

Additional bibliography: Mold., *Phytologia* 38: 23. 1977; Hocking, *Excerpt. Bot. A.31*: 18. 1978; Mold., *Phytologia* 45: 209. 1980; Mold., *Phytol. Mem.* 2: 123, 167, & 625. 1980; Silva & Mori, *Cent. Pesq. Cacau Bol. Técn.* 89: 8 & 53. 1981.

Huber & Tillett refer to this plant as an "hierba diminuta poco frecuente en sabana anegadiza, en canalículos, cabezuelas blanquecino-plateadas", and found it in both flower and fruit in July, at 100 m. altitude.

Additional citations: VENEZUELA: Amazonas: Huber & Tillett 5283 (Ld).

*SYNGONANTHUS PHILODICOIDES* var. *MORII* Mold., *Phytologia* 45: 209. 1980.

Bibliography: Mold., *Phytologia* 45: 209. 1980; Mold., *Phytol. Mem.* 2: 167 & 625. 1980; Silva & Mori, *Cent. Pesq. Cacau Bol. Técn.* 89: 53. 1981.

Citations: BRAZIL: Bahia: Mori, King, Santos, & Hage 12641 (Ld--isotype, W--2854278--isotype).

*SYNGONANTHUS PITTIERI* Mold.

Additional bibliography: Mold., *Phytologia* 38: 23. 1977; Mold., *Phytol. Mem.* 2: 84 & 625. 1980.

Additional citations: MOUNTED CLIPPINGS: Mold. in Woodson & Schery, *Ann. Mo. Bot. Gard.* 27: 269. 1940 (W).

*SYNGONANTHUS PLANUS* Ruhl.

Additional bibliography: Mold., *Phytologia* 38: 23--24. 1977; Mold., *Biol. Abstr.* 65: 3719. 1978; Mold., *Phytol. Mem.* 2: 167 & 625. 1980; Mold. in Harley & Mayo, *Toward Checklist Fl. Bahia* 77. 1980.

Additional citations: BRAZIL: Bahia: Harley, Renvoize, Erskine, Brighton, & Pinheiro in Harley 15272 (W--2771328).

*SYNGONANTHUS PLUMOSUS* Alv. Silv.

Additional bibliography: Mold., *Phytologia* 38: 24--25. 1977; Mold., *Biol. Abstr.* 65: 3719. 1978; Mold., *Phytol. Mem.* 2: 167, 444, & 625. 1980.

Additional citations: MOUNTED ILLUSTRATIONS & CLIPPINGS: Alv. Silv., *Fl. Mont.* 1: 339--340, pl. 214. 1928 (Ld, N, W).

*SYNGONANTHUS POGGEANUS* Ruhl.

Additional bibliography: Mold., *Phytologia* 38: 25--26. 1977; Mold., *Biol. Abstr.* 65: 3719. 1978; Mold., *Phytol. Mem.* 2: 221, 223, 234, 236, 444, & 625. 1980.